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USNEA WIRTHII CLERC NEW TO NORTH AMERICA AND THE BRITISH ISLES

During lichenological field studies in Cornwall, south-west England, one of us (P.D.) collected some specimens that proved to be the recently described *Usnea wirthii* Clerc known hitherto from south-western Europe and north Africa (Clerc 1984; van den Boom *et al.* 1990; Etaya unpublished data). In the Dublin herbarium (DBN) a specimen collected in Ireland and determined as *U. inflata* Delise (= *U. cornuta* Körber, see Clerc 1987) also proved to be *U. wirthii*. Further studies in the Duke Herbarium uncovered two additional specimens collected by W. C. T. Herre in the state of Washington and identified as *U. glabrata* (Ach.) Vainio ex Mot. by J. Motyka. Specimens cited in this paper were studied by the senior author in the framework of preliminary studies for a monograph of the European species and were tested by thin-layer chromatography (TLC) with the techniques described by Culberson & Ammann (1979).

Usnea wirthii is a small, shrubby, erect and sorediate (without isidia) species. It has a yellow pigment in the medulla (this pigment may be lacking, as in the material in DBN) and psoromic or norstictic acids in the soralia (all the specimens cited below have psoromic acid). The branches of the thallus are characteristically and distinctly segmented by annular cracks bordered by white rings of everted medullary tissue.

The northernmost locality of this species was hitherto situated in France (Loire Atlantique). The known range of *U. wirthii* [western France, Corsica

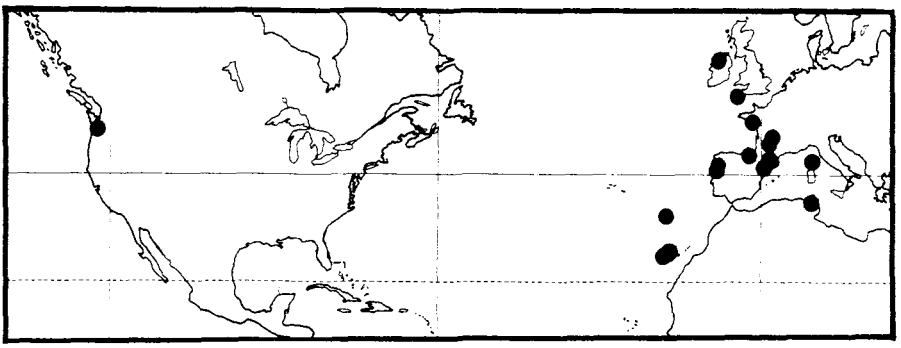

FIG. 1. Known world distribution of *Usnea wirthii*.

(not Sardinia as erroneously mapped in Clerc 1984), Portugal, Spain and Tunisia] is therefore now extended to include the North American continent and the British Isles. Extended field studies made by the senior author on the Canary Islands and on the west coast of North America showed this species to have its main distribution in these two areas. On the Canary Islands (El Hierro, La Gomera, Tenerife) *U. wirthii* is occasionally very frequent on *Pinus* species (*P. canariensis* forests or *P. canariensis*/*P. radiata* plantations) and *Erica* species (in the Fayal-Brezal zone) (Clerc unpublished data). In western North America (from southern California to Washington State) this species is quite frequent in the shrubland vegetation of the Chaparral, mainly on *Adenostoma fasciculatum, Arctostaphylos* species and *Ceanothus* species (Clerc unpublished data).

The distribution range of *U. wirthii* (Fig. 1) shows a major discontinuity, a disjunction between western North America and Macaronesia-Western Europe. This type of distribution is very similar to the western North American and Macaronesian-West Mediterranean disjunctions displayed by a small group of lichens (*Cetraria merrillii* Du Rietz, *Dimelaena radiata* (Tuck.) Hale & W. Culb., *Parmelia pustulosa* Essl., *P. subolivacea* Nyl. and *Thelomma mammosum* (Hepp) Massal.) and discussed in detail by Kärnefelt (1980). Later, Huneck *et al.* (1986) added *T. californicum* (Tuck.) Tibell to this group. However, *U. wirthii* seems to have a much more oceanic type of distribution than the species mentioned above and indeed the newly discovered locality in the British Isles seems to confirm that. A very small hepatic *Cephaloziella turneri* (Hook.) Müll., shows a very similar distribution pattern (Schofield & Crum 1972, Map 25). As one can see on their respective maps, both *U. wirthii* and *C. turneri* have in Europe a very distinct South European-Atlantic type of distribution. Among bryophytes, other selected members of this Western North American–Western European disjunction are: *Antrichia californica* Sull. ex Lesq., *Cladopodium whippleanum* (Sull.) Ren. & Card., *Hookeria lucens* (Hedw.) Sm. and *Plagiothecium undulatum* (Hedw.) B. S. G. (Schofield & Crum 1972, Schofield 1985). Attempts of explanations for this kind of disjunction have been made elsewhere (Kärnefelt 1980; Schofield & Crum 1972; Schuster 1983) and will not be discussed here.

Specimens examined: **British Isles:** V.C.1, West Cornwall: SW Penzance, N Burnewhall, on *Salix cinerea*, 23 September 1982. *P. Diederich* 8949 (hb. Diederich). V.C.H29, Leitrim: Lough Rinn, May 1983, *A. M. Burnet* (DBN).—**United States:** Washington state: Lewis Co., Salmon Creek, on twigs of *Salix* sp., 1955, *W. C. T. Herre* 8354 (DUKE); Thurston Co., Bald Hills, 39 miles south east of Olympia, 280 m, 1953. *W. C. T. Herre* 6431 (DUKE).

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